

Human Resource Management and Organisational Performance in Rivers State Waste Management Agency, 2019–2025

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ABSTRACT

Effective human resource management constitutes one of the most critical yet institutionally under-resourced determinants of organisational performance in Nigerian public sector waste management agencies, where the capacity to recruit competent personnel and sustain their technical proficiency directly shapes the quality of service delivered to citizens. This study examined recruitment and selection practices and training and development programmes as determinants of employee performance and service delivery quality in Rivers State Waste Management Agency (RIWAMA) between 2019 and 2025. Anchored on Human Capital Theory, the study adopted a survey research design with total population sampling, covering all 139 staff of RIWAMA. Structured questionnaires were administered to 134 junior employees, of which 128 were returned and analysed (95.5% response rate), while structured interviews were conducted with five senior employees. Descriptive statistics with a criterion mean of 2.50 were used to answer the research questions, while Pearson Product Moment Correlation and simple linear regression at the 0.05 level of significance were used to test two null hypotheses. Findings revealed that recruitment and selection practices have a significant positive effect on employee performance in waste collection operations ($r = 0.742$, $R^2 = 0.551$, $p < .05$), and that training and development programmes have a strong significant positive influence on the quality of waste disposal and environmental sanitation service delivery ($r = 0.819$, $R^2 = 0.671$, $p < .05$), the latter constituting the strongest relationship in the study. Qualitative findings confirmed that RIWAMA has not conducted a merit-based recruitment exercise since 2006 and provides no regular staff training. The study concluded that recruitment and training deficiencies are foundational constraints on RIWAMA's organisational performance and recommended the institutionalisation of an independent, merit-based recruitment framework and a comprehensive, needs-based training programme for all staff categories.

Keywords: recruitment and selection; training and development; employee performance; service delivery; waste management; human capital theory; Rivers State

INTRODUCTION

Human resource management (HRM) has assumed an increasingly central role in shaping organisational performance across public sector agencies charged with essential service delivery mandates (Onah, 2008; Dessler, 2017). Among the constellation of HRM practices, recruitment and selection and training and development constitute the entry point and the continuous development mechanism through which organisations build the human capital base on which service quality depends. Recruitment and selection determine the calibre of personnel an organisation deploys, while training and development sustain and update the competencies required to meet evolving operational demands (Armstrong, 2006; Meidiaputri et al., 2025). In public sector waste management institutions, where personnel are exposed to occupational hazards and are expected to apply evolving sanitation technologies, these two HRM functions are not peripheral administrative activities but operational necessities.

Rivers State Waste Management Agency (RIWAMA), established under Section 2 of the Rivers State Civil Service Law in 2014, is statutorily mandated to deliver efficient waste collection, disposal, and environmental

sanitation services across Rivers State. Despite this mandate, senior employees of the agency confirmed that RIWAMA has not conducted a systematic, merit-based recruitment exercise since 2006, with subsequent appointments initiated from the Governor's office rather than through institutional HR processes. Similarly, all five senior employees interviewed confirmed that the agency provides no regular training or development programmes for its staff. These deficiencies, and their consequences for the agency's waste collection and environmental sanitation performance, constitute the empirical focus of this study.

The study sought to: (i) examine the effect of recruitment and selection practices on employees' performance in waste collection operations of RIWAMA; and (ii) ascertain the extent to which training and development programmes influence the quality of waste disposal and environmental sanitation service delivery in RIWAMA.

The following research questions guided this study: (i) What is the effect of recruitment and selection practices on employees' performance in waste collection operations of RIWAMA? (ii) To what extent do training and development programmes influence the quality of waste disposal and environmental sanitation service delivery in RIWAMA?

The following null hypotheses were tested: Ho₁: Recruitment and selection practices have no significant effect on employees' performance in waste collection operations of RIWAMA. Ho₂: Training and development programmes have no significant influence on the quality of waste disposal and environmental sanitation service delivery in RIWAMA.

STATEMENT OF THE PROBLEM

With respect to recruitment and selection, RIWAMA has not conducted a systematic, merit-based recruitment exercise since 2006. Senior employees of the agency confirmed that the most recent intake was initiated from the Governor's office rather than through any institutional HR process, resulting in appointments that frequently bypass qualification requirements and skills matching. Akpoyibo (2025) specifically identified non-meritocratic recruitment as a persistent and damaging institutional failure in Nigerian public sector organisations, while Gbirevbie (2020) identified political consideration and government discretion as dominant strategies in public sector recruitment in Nigeria, undermining workforce quality and operational performance. The consequence for RIWAMA has been a workforce engaged in waste collection operations that is often mismatched with the technical and physical demands of the role, directly impairing service delivery outcomes.

The problem of training and development within RIWAMA is equally serious. All five senior employees interviewed during the course of this study confirmed that the agency does not provide regular training or development programmes for its staff, a finding consistent with Azu's (2021) observation that poor training and a weak educational infrastructure are among the primary factors accounting for low human capital development in Nigerian public organisations. Kasmiati et al. (2024) identified the lack of qualified and adequately trained human resources as a primary structural obstacle to quality waste management service delivery in Indonesia, confirming that this deficiency is not unique to Nigeria but represents a systemic challenge across developing country waste management institutions. The resulting skills gap not only reduces service delivery quality but also exposes workers to preventable hazards. No prior study has examined these two dimensions in an integrated, empirically grounded manner specifically within RIWAMA, and this study addresses that gap directly.

THEORETICAL FRAMEWORK

Human Capital Theory

The study is anchored on Human Capital Theory, propounded by Becker (1964) and elaborated by Schultz (1961) and Mincer (1974). The theory posits that individuals' skills, knowledge, and abilities constitute valuable economic assets, such that deliberate investments in recruitment quality, training, and development enhance the productive capacity of individuals and, by extension, organisational performance. Becker (1964) distinguished between general training, valued across employers, and specific training, of greatest value within

the employing institution, a distinction directly relevant to RIWAMA's training deficit, which has deprived its workforce of both dimensions of human capital development. The theory holds that organisations which fail to invest continuously in recruitment quality and training face progressive erosion of workforce productive capacity through skills obsolescence and structural misalignment between employee competence and job demands.

CONCEPTUAL REVIEW

Human Resource Management

Human resource management is defined as a strategic and coherent approach to the management of an organisation's most valued assets, the people working there, who individually and collectively contribute to the achievement of its objectives (Armstrong, 2006). Dessler (2017) describes HRM as the process of acquiring, training, compensating employees, and attending to their labour relations, health and safety, and fairness concerns. In public sector organisations such as RIWAMA, HRM must operate within the framework of civil service rules, government policies, and budgetary constraints that directly condition management decisions, making the quality of recruitment and training investment not merely desirable but constitutive of the agency's ability to fulfil its statutory mandate.

Recruitment and Selection

Recruitment is the process of identifying, screening, shortlisting, and attracting potential human resources to fill vacant positions, while selection is the process of evaluating, interviewing, and choosing the most suitable candidates for available positions (Recruitment and Selection, 2016; Dessler, 2017). Together, these processes determine the human capital composition of an organisation's deployed workforce. A critical limitation of the existing recruitment literature applied to Nigerian public agencies is its tendency to treat political interference as a background condition rather than a measurable determinant of workforce quality, a gap this study addresses directly by examining RIWAMA's near two-decade absence of merit-based recruitment as an empirical variable rather than a contextual assumption.

Training and Development

Training refers to a planned and systematic process through which employees acquire specific knowledge, skills, and competencies needed to perform their current job duties more effectively, while development is a broader and longer-term process oriented towards equipping employees with the capabilities needed for future roles (Dessler, 2017; Armstrong, 2006). In operationally complex settings such as waste management, where the technical demands of the work evolve continuously with changes in environmental regulations and waste management technologies, a workforce trained only once at the time of hiring will progressively fall behind operational requirements, making continuous training not merely beneficial but operationally essential for maintaining service delivery quality over time.

EMPIRICAL REVIEW

Girsang *et al.* (2023) found that recruitment and selection jointly explain 71.4% of the variance in employee performance in an Indonesian firm, with recruitment ($t = 3.789$, $p = .001$) and selection ($t = 2.361$, $p = .025$) both independently significant. Akpoyibo (2025), studying public enterprises across Delta, Edo, and Rivers States, established a significant positive correlation ($r = 0.815$) between merit-based recruitment and employee effectiveness, with regression analysis showing merit-based recruitment accounts for a 30.9% increase in employee effectiveness. Gbervbie (2020) found that recruitment in the Nigerian Federal Civil Service is dominated by political consideration and government discretion, undermining workforce quality. Meidiaputri *et al.* (2025), synthesising ten studies, confirmed recruitment and selection as among the most consistently significant predictors of employee performance across contexts.

Kasmiati *et al.* (2024), in a qualitative study of the Bima City Environmental Service in Indonesia, identified the shortage of trained human resource officers as the primary factor constraining waste management service quality across all five SERVQUAL dimensions. Ibiye *et al.* (2025) found a strong correlation ($r = 0.951$)

between training and development and employee productivity in the Rivers State Local Government Service Commission. Danjuma and Nasamu (2025) established that training programmes have a positive and significant impact on organisational goal achievement in the Federal Inland Revenue Service. Meidiaputri et al. (2025) identified training as the single most consistently significant predictor of employee performance across the ten studies reviewed, while Malik et al. (2021) found that training enhances employee environmental citizenship behaviours relevant to organisations with environmental mandates.

Taken together, the reviewed studies converge on the significance of recruitment quality and training investment as performance determinants, yet methodological limitations qualify their direct applicability to RIWAMA. Girsang *et al.* (2023) and Akpoyibo (2025) both rely on cross-sectional designs situated within single private or quasi-private enterprises, limiting inference about dynamics specific to a state waste management parastatal governed by civil service recruitment rules and subject to political appointment pressures of a kind neither study examines. Kasmia *et al.* (2024) offers rich qualitative insight into training deficits in an environmental service agency, but, being purely qualitative, cannot establish the magnitude of the training-performance relationship that the present study's correlational design provides. Meidiaputri *et al.*'s (2025) synthesis is valuable for establishing the generality of the recruitment-training-performance relationship across ten studies, but as a review of reviews it cannot speak to the specific institutional configuration, near two-decade recruitment freeze, and complete training deprivation documented within RIWAMA. No existing study has examined the combined effect of recruitment and selection and training and development on waste collection performance and environmental sanitation service delivery quality specifically within Rivers State Waste Management Agency, constituting the gap the present study addresses.

RESEARCH METHODOLOGY

The study adopted a survey research design. The population comprised all 139 staff of RIWAMA as at December 2025. Given the small and manageable population size, total population (census) sampling was adopted: structured questionnaires were administered to the 134 junior employees of the agency, of which 128 were returned and analysed, yielding a response rate of 95.5%, while structured interviews were conducted with five senior employees purposively selected on the basis of their institutional authority over HRM policy. The questionnaire comprised 4-point Likert-scaled items (Strongly Agreed = 4, Agreed = 3, Disagreed = 2, Strongly Disagreed = 1) covering recruitment and selection (4 items) and training and development (4 items).

The questionnaire items were developed directly from the study's two research objectives and the specific behavioural and perceptual indicators identified in the reviewed recruitment, selection, and training literature (Dessler, 2017; Armstrong, 2006; Gbervbie, 2020; Kasmia *et al.*, 2024). Draft items were then reviewed for face and content validity by the study's supervisors and three independent academic specialists in Public Administration and Research Methodology at Rivers State University, who evaluated each item for clarity, relevance to its construct, and non-redundancy; items judged ambiguous or duplicative were revised or removed before the pilot test. Reliability was subsequently confirmed through a pilot test administered to staff of the Rivers State Environmental Management Authority, a comparable Rivers State environmental agency not included in the main study, yielding Cronbach Alpha coefficients of 0.81 (recruitment and selection) and 0.83 (training and development), both exceeding the 0.70 threshold. Descriptive statistics with a criterion mean of 2.50 were used to analyse research questions, while Pearson Product Moment Correlation (PPMC) and simple linear regression at the 0.05 level of significance were used to test the null hypotheses, with the coefficient of determination (R^2) computed to indicate the proportion of variance in organisational performance explained by each independent variable.

DATA PRESENTATION AND ANALYSIS

Recruitment and Selection Practices and Employee Performance in Waste Collection Operations

Descriptive analysis of the four recruitment and selection items yielded a grand mean of 2.86 (SD = 0.95), indicating overall agreement that recruitment and selection practices affect employee performance in waste collection operations. The item recording the strongest agreement (mean = 3.08) affirmed that politically

influenced recruitment practices have negatively affected employee performance, while the item on the transparency of RIWAMA's recruitment process recorded the lowest mean in the set (2.71).

S/N	Item	Mean	Decision
1	Recruitment and selection practices in RIWAMA are transparent and merit-based.	2.71	Agreed
2	The recruitment process results in employees with the right qualifications for waste collection operations.	2.81	Agreed
3	Politically influenced recruitment practices have negatively affected employee performance in waste collection operations of RIWAMA.	3.08	Agreed
4	Merit-based recruitment and selection contributes to improved employee performance in RIWAMA's waste collection operations.	2.84	Agreed
	Grand Mean	2.86	Agreed

Table 1: Mean Ratings on Recruitment and Selection Practices and Employee Performance in Waste Collection Operations (n = 128). Source: Field Survey, 2026. Criterion Mean = 2.50

The Director of Administration confirmed in interview that the agency's most recent systematic recruitment exercise was conducted in 2006, stating that "appointments since then have largely come through directives from above rather than through our own recruitment desk, and that has made it difficult for us to match the people we receive to the specific operational roles we actually need filled" (Director of Administration, personal communication, 2026). The Head of Waste Management Operations corroborated this, noting that "some of the staff posted to collection duties do not have the physical or technical suitability the work demands, and we simply have to manage with what we are given" (Head of Waste Management Operations, personal communication, 2026).

Test of Hypothesis One

H₀₁: Recruitment and selection practices have no significant effect on employees' performance in waste collection operations of RIWAMA.

	Pearson Correlation	Employee Performance
Recruitment and Selection	1	0.742
Sig. (2-tailed)	—	0
N	128	128

Table 2: PPMC Analysis of Recruitment and Selection Practices and Employee Performance in Waste Collection Operations. Source: SPSS Output, 2026

Pearson correlation analysis revealed a strong positive relationship between recruitment and selection practices and employee performance in waste collection operations ($r = 0.742$, $p = .000$). Since $p < .05$, H_{01} is rejected, confirming a statistically significant effect of recruitment and selection practices on employee performance in waste collection operations of RIWAMA.

R	R ²	Adj. R ²	Std. β (t)	F
0.742	0.551	0.547	0.742 (12.42)	154.35

Table 3: Simple Linear Regression Summary for Recruitment and Selection Practices Predicting Employee Performance. Source: Author's Computation, 2026

The regression model confirms the correlational finding: recruitment and selection practices account for 55.1 percent of the variance in employee performance in waste collection operations ($R^2 = 0.551$, Adjusted $R^2 = 0.547$), with a standardised beta of 0.742 ($t = 12.42$, $p < .001$), indicating that a one standard deviation improvement in recruitment and selection practices is associated with a 0.742 standard deviation improvement in employee performance, net of measurement error.

Training and Development Programmes and Service Delivery Quality

Descriptive analysis of the four training and development items yielded a grand mean of 3.19 (SD = 0.89), the highest grand mean recorded across the study's two variables. The item affirming that the absence of training has negatively affected service delivery quality recorded a mean of 3.23, the highest single item mean in the entire study.

S/N	Item	Mean	Decision
1	Regular training and development programmes enhance employees' capacity for effective waste disposal in RIWAMA.	3.19	Agreed
2	The absence of training and development has negatively affected the quality of environmental sanitation service delivery in RIWAMA.	3.23	Agreed
3	Training equips employees with the technical skills needed for modern waste management operations in RIWAMA.	3.12	Agreed
4	Lack of training and development contributes to poor quality waste disposal and sanitation outcomes in RIWAMA.	3.2	Agreed
	Grand Mean	3.19	Agreed

Table 4: Mean Ratings on Training and Development Programmes and Quality of Waste Disposal and Environmental Sanitation Service Delivery (n = 128). Source: Field Survey, 2026. Criterion Mean = 2.50

The Head of Health and Safety confirmed in interview that no structured occupational safety or technical training had been delivered to frontline staff in recent memory, stating that "our workers handle biological and chemical waste every day, but what they know about protecting themselves they have picked up from each other, not from any formal instruction this agency has given them" (Head of Health and Safety, personal communication, 2026). The Head of Waste Management Operations added that "the equipment and methods used elsewhere have moved on, but our people are still doing things the way they learned when they first joined, sometimes decades ago" (Head of Waste Management Operations, personal communication, 2026).

Test of Hypothesis Two

Ho₂: Training and development programmes have no significant influence on the quality of waste disposal and environmental sanitation service delivery in RIWAMA.

	Pearson Correlation	Service Delivery Quality
Training and Development	1	0.819
Sig. (2-tailed)	—	0
N	128	128

Table 5: PPMC Analysis of Training and Development Programmes and Quality of Waste Disposal and Environmental Sanitation Service Delivery. Source: SPSS Output, 2026

Pearson correlation analysis revealed a strong positive relationship between training and development programmes and service delivery quality ($r = 0.819$, $p = .000$), the strongest correlation recorded in the study. Since $p < .05$, Ho₂ is rejected, confirming a statistically significant influence of training and development programmes on the quality of waste disposal and environmental sanitation service delivery in RIWAMA.

R	R ²	Adj. R ²	Std. β (t)	F
0.819	0.671	0.668	0.819 (16.02)	256.7

Table 6: Simple Linear Regression Summary for Training and Development Programmes Predicting Service Delivery Quality. Source: Author's Computation, 2026

The regression model confirms and extends the correlational finding: training and development programmes account for 67.1 percent of the variance in service delivery quality ($R^2 = 0.671$, Adjusted $R^2 = 0.668$), the largest explanatory proportion recorded across both variables in this study, with a standardised beta of 0.819 ($t = 16.02$, $p < .001$).

DISCUSSION OF FINDINGS

Recruitment and Selection Practices and Employee Performance

The finding of a significant positive effect of recruitment and selection on employee performance in waste collection operations ($r = 0.742$) corroborates Gbervbie (2020), Girsang *et al.* (2023), and Akpoyibo (2025), all of whom establish that merit-based, transparent recruitment is a direct and substantial determinant of workforce performance in comparable public sector contexts. The strongest item-level agreement in this study, that politically influenced recruitment has damaged waste collection performance (mean = 3.08), reflects the structural reality that RIWAMA's staffing since 2006 has been driven from the Governor's office rather than through institutional HR processes, disrupting the human capital allocation mechanism that Human Capital Theory identifies as central to organisational performance.

The magnitude of the relationship recorded in this study is comparable to, though marginally lower than, Akpoyibo's (2025) $r = 0.815$ finding for southern Nigerian public enterprises encompassing Rivers State, a difference plausibly attributable to RIWAMA's more extreme and prolonged recruitment freeze: because virtually the entire current workforce was hired outside merit-based processes, the variance in recruitment quality available within RIWAMA to explain performance differences is more constrained than in Akpoyibo's (2025) sample, which likely spanned both merit- and non-merit-recruited staff. This nuance qualifies rather than contradicts the convergence between the two studies, and suggests that the true relationship between merit-based recruitment and performance at RIWAMA may be understated by the present cross-sectional design.

Training and Development Programmes and Service Delivery Quality

The finding that training and development exerts the strongest influence of any HRM variable examined in this study on service delivery quality ($r = 0.819$) is corroborated by Kasmianti *et al.* (2024) in an analogous Indonesian waste management context, and by Ibiye *et al.* (2025) and Danjuma and Nasamu (2025) within the Nigerian public sector. The unanimous confirmation by senior employees that RIWAMA provides no regular training, combined with the highest single item mean recorded in the study (3.23) on the damaging effect of this absence, constitutes compelling triangulated evidence that training deprivation is the most acute and consequential HRM deficiency facing the agency.

While Ibiye *et al.*'s (2025) $r = 0.951$ correlation between training and productivity in the Rivers State Local Government Service Commission exceeds the $r = 0.819$ recorded here, the difference may reflect the LGSC's broader administrative and professional staff composition, for whom training outcomes are more directly observable in task performance, compared to RIWAMA's predominantly operational frontline workforce, whose training benefits may be moderated by resource constraints beyond training itself, such as equipment and vehicle availability. This distinction suggests that training investment, while powerful on its own, may require complementary operational investment to achieve its full potential at RIWAMA, an interaction the present bivariate design cannot directly test.

LIMITATIONS OF THE STUDY

This study is subject to methodological limitations that should inform the interpretation of its findings. First, the analysis relies on Pearson Product Moment Correlation and simple linear regression as the primary inferential techniques; while these establish the strength, direction, and explanatory power of the bivariate relationship between each independent variable and organisational performance, they do not control for potential confounding variables or capture the possible interaction between recruitment and selection and

training and development. Multiple regression or structural equation modelling in future research would allow the relative and combined contribution of both variables, net of each other and of other unmeasured factors, to be more precisely isolated. Second, the cross-sectional, self-report nature of the survey instrument means that the findings reflect respondents' perceptions at a single point in time and may be subject to common method bias; the qualitative interviews with senior employees were used to triangulate and substantiate the survey findings, but a longitudinal or mixed-methods panel design would strengthen causal inference in future studies. Third, instrument reliability was established through a pilot test at a comparable but distinct Rivers State environmental agency rather than through a split-sample or test-retest procedure within RIWAMA itself, a limitation future replications should address.

CONCLUSION

This study concludes that recruitment and selection practices and training and development programmes are both significant and positive determinants of, respectively, employee performance in waste collection operations and the quality of waste disposal and environmental sanitation service delivery in RIWAMA. The near two-decade absence of merit-based recruitment and the complete absence of staff training constitute foundational and compounding constraints on the agency's capacity to fulfil its statutory mandate. Both null hypotheses were rejected, with training and development registering the stronger of the two relationships and explaining the larger proportion of variance in organisational performance.

RECOMMENDATIONS

It is recommended that:

- i. RIWAMA, in collaboration with the Rivers State Government, should establish an independent, merit-based recruitment and selection framework insulated from political interference, incorporating clearly defined competency profiles for each operational role and a new recruitment exercise to address the critical staffing deficit created by the absence of systematic hiring since 2006.
- ii. The Rivers State Government should institutionalise a comprehensive, regular, needs-based training and development programme covering technical waste management procedures, occupational safety, and environmental health standards, funded as a non-negotiable annual budgetary line rather than a discretionary expenditure.

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